

## Safe Use of Hand Operated Chain Lever Hoists

This document is issued in accordance with the requirements of Section 6 of the Health and Safety at Work Act 1974, amended March 1988. It outlines the care and safe use of Hand Operated Chain Lever Hoists and is based on Section 10 of the LEEA Code of Practice for the Safe Use of Lifting Equipment.\* It should be read in conjunction with the requirements for lifting appliances for general purposes, given overleaf, which form an integral part of these instructions.

This information is of a general nature only covering the main points for the safe use of hand operate chain lever hoists. It may be necessary to supplement this information for specific applications.

### ALWAYS

- Store and handle lever hoists correctly.
- Inspect lever hoists and accessories before use and before placing into storage.
- Ensure any support fits freely into the seat of the hook and does not exert a side thrust on the point.
- Check the operation of the brake.
- Check that the bottom hook will reach its lowest point without running the chain against the stop.
- Adopt safe slinging practices and follow the instructions for the safe use of the equipment used.

### NEVER

- Expose lever hoists to chemicals, particularly acids, without consulting the supplier.
- Replace the load chain with a longer one without consulting the supplier.
- Extend the lever or use undue effort to force the lever hoist to operate.
- Throw, drop or drag a lever hoist.
- Allow oil or grease to come into contact with the brake.
- Expose a lever hoist directly to the elements, water spray, steam etc without consulting the supplier.

### Selecting the Correct Lever Hoist

Lever hoists are available in a range of capacities with either link chain or roller chain. Select the lever hoist to be used and plan the lift taking the following into account:

- Type of chain- link or roller.
- Capacity and range of lift.
- Lever hoists are designed for use at any attitude and may be used both for lifting and pulling applications.
- Consult the supplier if the lever hoist is to be used in areas of high risk, exposed to the elements, water, steam etc, with hazardous substances, e.g. acids\*\* or chemicals, or subjected to extremes of temperature.

### Storing and Handling Lever Hoists

- Never return damaged lever hoists to storage, they should be dry, clean and protected from corrosion.
- Store lever hoists hung from the suspension hook with the chains raised clear of the ground.
- Lever hoists should not be dropped, thrown or dragged across the floor.

- Never galvanise or subject the chain, or other load bearing parts, to any other plating process without the express approval of the supplier.

### Installing and Commissioning

Follow any specific installation instructions issued by the supplier and the general requirements given overleaf. Try the lever hoist to ensure that it operates correctly and that the brake is effective. Ensure the chain is not twisted, it must move freely. The bottom hook must reach the lowest required position without the chain running out to the end stop.

### Using Lever Hoists Safely

- Do not attempt lifting operations unless you understand the use of the equipment and the slinging procedures.
- Do not use defective lever hoists or accessories.
- Check the slinging arrangement ensuring that the lever hoist is safely rigged and that chains are not twisted. Do not use the load chain as a sling.
- Check the load is free to move before commencing and that the landing area has been prepared.
- Raise the load just clear, and then halt the lift to check the integrity of the lever hoist, sling method etc.
- Do not extend the operating lever, e.g. with a tube, to force the hoist to operate.
- Do not allow loads to swing out of control.
- Keep fingers, toes etc clear when lowering loads.

### In-Service Inspection and Maintenance

Follow any specific maintenance instructions issued by the supplier but in particular keep load chains lubricated and free of debris. Check the operation of the brake, brakes must be kept free of oil, grease etc. Never replace the load chain with a longer one without consulting the supplier.

Regularly inspect the lever hoist and, in the event of the following defects, refer the hoist to a competent person for through examination: wear; damage to hooks and fittings; damage or distortion to slack end stop; chains worn, bent, notched, stretched, cracked, corroded, do not hang freely, twisted or jump; load slips or will not lift; damaged hoist casing; bent or cracked operating lever; illegible markings.

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Further information is given in:

\*\*HSE Guidance Note PM39- Hydrogen Embrittlement of Grade T Chain  
\*The Code of Practice for the Safe Use of Lifting Equipment, published by:

LIFTING EQUIPMENT ENGINEERS ASSOCIATION

### LIFTING APPLIANCES FOR GENERAL PURPOSES (MANUAL AND POWER OPERATED BLOCKS)

The following information is based on Section 1- appendix 1.6 of the LEEA Code of Practice for the Safe Use of Lifting Equipment.\* It should be read in conjunction with the instructions for the safe use, given overleaf, of which it forms an integral part and with any specific instructions issued by the supplier.

This information is of a general nature only covering the main points for the safe use of manual and power operated blocks.

### ALWAYS

- Ensure suspension points and anchorages are adequate for the full imposed load.
- Check the load chain/wire rope is hanging freely and is not twisted or knotted.
- Position the hook over the centre of gravity of the load.
- Check the travel path is clear.
- Ensure the landing area is properly prepared.

### NEVER

- Exceed the marked SWL.
- Use the load chain/wire rope as a sling.
- Shock load the block or other equipment.
- Lift on the point of the hook.
- Overcrowd the hook with fittings.
- Permit the load to swing out of control.
- Leave suspended loads unattended.

### Types of Blocks

A wide range of manual and power operated blocks is available. This section of the leaflet is concerned with matters which are common to the safe use of the following listed equipment when used to lift in a vertical plane only.

Pulley blocks for fibre or wire rope used with winches, hand chain blocks, chain lever hoists, power operated wire rope blocks and power operated chain blocks. The use of trolleys is often associated with blocks and these may be built in with the trolley as an integral part of the appliance, or independent with the block hung on.

### Operative Training

Lifting appliances should only be used by trained operatives\*\* who understand their use and that of the associated equipment used in the lift.

### Installation and Commissioning

The erection procedure will vary with the equipment and should be carried out in accordance with the suppliers' instructions paying attention to the following matters:

Prior to installation inspect the equipment to ensure no damage has occurred in store or transit.

Ensure the support structure is adequate for the full loads that will be imposed, is tested and marked with the SWL.

When erecting trolleys ensure they are correctly set for the beam width and that the track is fitted with end stops and remains level at all loads up to the maximum.

When suspending appliances by the top hook ensure the support fits freely into the seat of the hook.

After erection ensure that the chain/wire rope hangs freely and is not twisted or knotted.

With power operated blocks the supply should be connected by a suitably qualified person taking account of any statutory or technical requirements (e.g. electricity at work regulations, pressure systems and transportable gas containers regulations)

Test run to ensure the free and correct movement of the chain/rope. Check the operation of the brake. Check direction of control command, position and operation of travel limits and safety devices.

The basic objectives of any lifting operation are to move the load to the desired location and land it safely, efficiently and without damage to the load, the equipment used or the surrounding buildings, plants etc. In addition to any specific instructions relating to the block the following general points must be observed.

- Never attempt lifting operations unless you have been trained in the use of the equipment and slinging procedures.
- Position the hook directly over the centre of gravity so that the line of pull is vertical.
- Do not use the chain/wire rope to sling the load, i.e. do not wrap it round the load, back hook or choke hitch.
- Do not lift on the point of the hook or overcrowd the hook with fittings.
- Never lift/lower more than the marked SWL. In the case of manual equipment is abnormally high effort is required, and with power operated appliance they fail to lift the load, or if the load slips this is an indication of too high a load or a fault- check the load and the appliance. Avoid unnecessary inching of power operated appliances and do not impose sudden or shock loads.
- Push rather than pull loads suspended from appliances with push/pull trolleys and if un-laden pull on the bottom block hook. Never pull an appliance by the pendant control, supply cable or hose. Avoid sudden movement of travel motion or undue effort in pushing the load which can cause the load to swing.
- Avoid excessive or intentional use of motion limits unless they are additional limits intended for that purpose. Avoid running appliances against end stops.
- Do not allow anyone to pass under or ride upon the load. Never leave suspended loads unattended unless in an emergency then ensure the area is cordoned off and kept clear.
- Do not remove guards, protective covers, weather proof covers, heat shields etc without the authority of a competent person.

### In-Service Inspection and Maintenance

The Factories Act 1961, and the various regulations made under the act require that lifting machines or appliances are properly maintained. This is an ongoing duty that falls on the user and a planned routine maintenance programme will be necessary. In addition to the statutory thorough examinations by a competent person, regular in-service inspections should be made to find any faults and damage that might arise. If any are found they should be referred to the competent person.

The maintenance programme must meet the requirements of the manufacturer's instructions and any special requirements due to the conditions of service. This may be combined with maintenance of other equipment used in association with the appliance, e.g. power feed system. Check the block and its associated equipment daily for obvious faults and signs of damage.

Further information is given in:

\*LEEA Code of Practice for the Safe Use of Lifting Equipment.

\*\* HSE Guidance Note GS39- Training of Crane Drivers and Slingers